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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/713,499	11/14/2003	James E. Barger	BBNT-P01-138	1205

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EXAMINER	
SAINT SURIN, JACQUES M	

ART UNIT	PAPER NUMBER
2856	

DATE MAILED: 08/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/713,499	BARGER, JAMES E.	
	Examiner	Art Unit	
	Jacques M. Saint-Surin	2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 May 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *06/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This Office Action is responsive to the amendment reference is a statutory bar under 35 U.S.C. 102(b) and thus cannot be overcome by an affidavit or declaration under 37 CFR 1.131.

Response to Arguments

2. Applicant's arguments with respect to claims 1-49 have been considered but are moot in view of the new ground(s) of rejection.

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

4. Claims 1-2, 11-13, 15, 21-25, 28-30, 34, 40-43 and 47-48 are rejected under 35 U.S.C. 102(b) as being anticipated by Scherbatskoy (US Patent 2,411,117).

Regarding claims 1, 28, 47-49, Scherbatskoy discloses an apparatus for sensing motion of a referenced surface (Figs. 1 and 2, casing 10 to be buried or anchored to the ground that it will be 15 responsive to slight movements or vibrations of the ground, such for instance as those which might be produced by the passage through the ground of sound or compressional waves, see: col. 3, lines 14-19) comprising:

a shell (cover 24), a case (casing 10) within the shell (24), and a suspension (15); wherein the mass of the case (10) is greater than the mass of the shell (24) (inherently the mass of the case is greater than the mass of the shell), and wherein the case (10) is coupled to the shell (24) with the suspension (15); and

a first electrode (22) coupled to the shell (24), wherein the first electrode (22) is configured to detect relative motion between the first electrode (22) and the case (10).

Regarding claim 2, Scherbatskoy discloses discloses the container 21 is of a cylindrical bellows-like form, see: col. 3, lines 36-37.

Regarding claim 28, it is similar in scope with claim 1, and therefore, it is rejected for the reasons set forth for that claim. Furthermore, Scherbatskoy discloses a second electrode 23 coupled to the shell coupled to the case 10.

Regarding claim 47, it is similar in scope with claim 1 and therefore, it is rejected for the reasons set forth for that claim.

Regarding claim 48, it is similar in scope with claim and therefore, it is rejected for the reasons set forth for that claim. Furthermore, Scherbatskoy discloses

Regarding claim 11, Scherbatskoy discloses within the lower part of the casing 10 there is arranged an electrolytic cell 20 which consists of a container 21 filled with a suitable electrolyte (col. 3, lines 30-33).

Regarding claim 12, Scherbatskoy discloses an electrolyte is provided within the device and suitable electrodes are arranged within the electrolyte in such a manner that the relative distance between the electrodes 22 and 23 varies in accordance with the relative movement between the casing 10 and the inertia element 17, see col. 4, lines 63-69.

Regarding claim 13, Scherbatskoy discloses an amplifier 57.

Regarding claims 14-15 and 34, Scherbatskoy discloses a conductive liquid within said container, electrodes immersed in said liquid and suitably positioned within

said container in a definite spatial relationship one to another, connecting elements between said electrodes and said outer casing (10) and said inertia member (17), respectively, whereby variation in the spacing between said electrodes is produced in response to said vibration and the resistance of said liquid between said electrodes (22, 23) varies in accordance with the variation in said spacing, see; col. 12, lines 1-11.

Regarding claims 21-25, the fluid of Scherbatskoy inherently increases a capacitance of the first electrode 22 and damps the relative motion between the case 10 and the first electrode (22). Regarding claim 23, Scherbatskoy discloses a second electrode 23 coupled to shell (22).

Regarding claims 42-43 Scherbatskoy discloses the elastic membrane 15 is in the form of a ring having its outer periphery connected to an inertia member which consists of a steel cylinder 17 having a relative large mass, see: col. 3, lines 26-31.

Claim Rejections - 35 USC § 103

5. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scherbatskoy (US Patent 2,411,117) in view of Trzaskos (US Patent 4,382,201).

Regarding claims 6-7, Scherbatskoy does not disclose the shell comprises polyvinyl chloride and the case comprises tungsten. Trzaskos discloses a cylindrical backing 14 is a tungsten-polyvinyl chloride composite fabricated, and absorbs sound coming off the back side of the element, see: col. It would have been obvious to one having ordinary skill in the art at the time of the invention to utilize in Scherbatskoy the backing material of Trzaskos because it includes a high level of acoustic attenuation in

the backing wherein almost all of the acoustic energy emitted from the back of the transducer element is absorbed, and there is a negligible amount of energy reflected back to the element. Therefore, the above combination would provide a reliable backing since the resultant noise coming from the backing is less than generated background noise.

6. Claims 16-20 and 35-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scherbatskoy (US Patent 2,411,117) in view of Rike (US Patent 2,776,010).

Regarding claims 16-20 and 35-39, Scherbatskoy does not disclose the viscosity of the fluid and the fluid is ethylene glycol. Rike discloses the liquid hydrocarbon having a viscosity of less than 40 centipoises (see; col. 2, lines 35-37). Rike further discloses the salvation agent may suitably be an ethylene glycol, see: col. 2, lines 31-32. It would have been obvious to one of the ordinary skill in the ad to utilize in Scherbatskoy the fluid of Rike because it is a cement slurry which has a low fluid loss and has a low density and may be suitable be an aqueous base slurry, an oil base slurry or an oil-dimension slurry which may be oil, cement and bentone thereby making the above combination more effective.

7. Claims 31-33 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scherbatskoy (US Patent 2,411,117) in view of Greer, Jr. (US Patent 4,764,908).

Regarding claims 31-33, Scherbatskoy does not disclose a cone shaped end. Greer discloses geophone 10 having housing 16 is formed from a generally conical bottom 20, see: col. 6, lines 25-27. Greer further discloses fluid 40 which provides the

damping function and battery 32A, see: Fig. 4. It would have been obvious to one having ordinary skill in the art at the time of the invention to employ in Scherbatskoy the housing of Greer because the conical end would be very effective to the geophone to be able to collect information below the reference surface so as to perform reliable inspection.

Regarding claim 44, Scherbatskoy does not disclose a radio coupled to the shell. Greer discloses seismological vibrations detected by sensor 30 are amplified and processed by a circuit 32 for transmittal to a remote location through a conventional antenna 34 which may be employed in conjunction with land based UHF or VHF radio monitoring, see: col. 6, lines 34-43. It would have been obvious to one having ordinary skill in tie art at the time of the invention to utilize in Scherbatskoy the radio of Greer because the obtained informations would be able to be transmitted immediately for niaking necessary decisions.

8. Claims 26-27 and 45-46 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacques M. Saint-Surin whose telephone number is (571) 272-2206. The examiner can normally be reached on Mondays to Fridays between 10:30 A.M and 800 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jacques M. Saint-Surin
July 27, 2006

DANIEL S. LARKIN
PRIMARY EXAMINER